



George C. Marshall Space Flight Center
Marshall Space Flight Center, Alabama 35812

FPD-OI-FD40.4
October 7, 2002

ORGANIZATIONAL INSTRUCTION

Flight Projects Directorate Ground Systems Department FD40

Flight Certification For Ground Systems

Revision B

APPROVAL

NAME
Original Signed by

TITLE
Manager, Ground
Systems Department

ORG
FD40

DATE
October 7, 2002

Ann R. McNair

CHECK THE MASTER LIST—
VERIFY THAT THIS IS THE CORRECT VERSION BEFORE USE

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DOCUMENT HISTORY LOG

Status (Baseline/ Revision/ Canceled)	Document Revision	Effective Date	Description
Baseline		9/14/99	Baseline version
Revision	Rev. A	3/14/01	Document reformatted to Flight Projects Directorate standard template.
Revision	Rev. B	10/1/02	4.0, 8.0 and 11.0 were updated to reflect current information.

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1.0 GENERAL INFORMATION

1.1 Scope

The CoFR procedures defined are applicable to the GSD personnel that support payload operations at the HOSC, including operations, engineering, development, testing, and administrative support activities. This flow represents the overall process structure. Detailed procedures governing the development of the CoFR inputs are the responsibility of the individual implementing elements.

1.2 Purpose

This procedure defines the processes used by the FD40 Organization in supporting the Marshall Space Flight Projects Directorate (FPD) Certification of Flight Readiness (CoFR) activities as required by the ISS Payloads Office for ISS Flight 5A.1 and subsequent flights.

1.3 Applicability

This instruction is applicable to the Ground Systems Department of the Flight Projects Directorate.

2.0 APPLICABLE DOCUMENTS

SSP 52054 ISS Program Payloads Certification of Flight Readiness Implementation Plan, Generic
 SSP 58318 MSFC Payload Operations Certification of Flight Readiness Implementation Plan, Generic

3.0 ACRONYMS and DEFINITIONS

3.1 Acronyms

CE	Cargo Element
CoFR	Certification of Flight Readiness
FPD/FD	Flight Projects Directorate
GSD	Ground Systems Department
HW	Hardware
IP	International Partner
ISS	International Space Station
LPRR	Launch Package Readiness Review
MPICB	Multilateral Payload Implementation Control Board
SORR	Stage Operations Readiness Review
SW	Software
UMS	Utilization and Mission Services

3.2 Definitions

Launch Package Readiness Review (LPRR) -The initial review to certify flight readiness, which results in CoFR 1. The LPRR is an ISS Program-level review that certifies the readiness of the launch package for integration with the Shuttle as well as its readiness for future on-orbit operations. This review applies to the launch package/CE(s) including any payloads and logistics items, and other flight equipment, facilities, and personnel. This review has a HW/SW design emphasis. The LPRR typically occurs at Launch minus 7 weeks (L-7 wks). For IP launches there will be no LPRR.

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Stage Operations Readiness Review (SORR) - The second review to certify flight readiness, which results in CoFR 2. The SORR certified the readiness for launch and on-orbit operations. This review applies to the CE(s) and on-orbit stage, as well as payloads and logistics items, changes since the LPRR, and facilities and personnel associated with launch and on-orbit operations. The SORR typically occurs at L-3 wks. For IP launches, the SORR will address both HW/SW readiness and operations readiness.

4.0 INSTRUCTIONS

4.1 CoFR 1

Payload Operations organizations that participate in CoFR 1 will submit their endorsements at L-10 weeks so they can be integrated and submitted to the ISS Payloads Office at L-9 weeks for approval by the Multilateral Payload Implementation Control Board (MPICB) at L-8 weeks. Their endorsements will be met per the MSFC Payload Operations CoFR 1 Checklist.

RESPONSIBLE PARTIES: GSD Manager, Group Leads

4.2 CoFR 2

Payload Operations organizations that participate in CoFR 2 will submit their endorsements at L-6 weeks so they can be integrated and submitted to the ISS Payloads Office at L-5 weeks for approval by the MPICB at L-2 weeks. Their endorsements will be met per the MSFC Payload Operations CoFR 2 Checklist.

RESPONSIBLE PARTIES: GSD Manager, Group Leads

4.3 Contractor Readiness Submittal

The UMS Program Manager provides certification of flight readiness to the FD43 Group Lead by letter for all areas of UMS responsibility (Operations and Maintenance, Systems Engineering, and Software Development) for support to a particular ISS Flight for both CoFR 1 and CoFR 2. These areas include exception forms with a work plan for resolution and identification of open work and completion dates and summary work plans.

RESPONSIBLE PARTIES: UMS Program Manager

4.4 Certify Relevant GSD Functions

FD43 Group Lead will provide the UMS CoFR 1, 2 System Engineering and Software inputs to FD41 Group Lead for review. FD43 Group Lead will review the UMS CoFR 1, 2 Operation and Maintenance inputs for accuracy as well as the HOSC Facilities' inputs received internally.

RESPONSIBLE PARTIES: FD43, FD41 Group Leads, HOSC Facilities, UMS Ops Manager

4.5 Group's Certification Letter

The FD41 and FD42 Group Leads shall provide a letter to the FD43 Group Lead stating that Software developed by the respective Groups (both in house and contractor provided) is ready to be integrated into the HOSC. The FD42 Group lead will also provide certification that the Payload Planning System software has been successfully integrated into the HOSC.

RESPONSIBLE PARTIES: FD41 and FD42 Group Leads

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4.6 Flight Certification Statement to POD Manager

FD43 Group Lead will prepare and transmit the integrated certification letter to the Payload Operations Director.

RESPONSIBLE PARTIES: FD43 Group Lead

5.0 NOTES

None

6.0 SAFETY PRECAUTIONS AND WARNING NOTES

None

7.0 APPENDICES, DATA, REPORTS, AND FORMS

None

8.0 QUALITY RECORDS

The table below lists the Quality Records for this Organizational Instructional.

Record Title	Description of Record	Authority	Retention	Notes
Certification of Flight Readiness	Submitted by FD43 Group Lead	FPD-OI-FD40.1	Handle as permanent pending retention approval	Storage is in a file cabinet in MSFC Building 4663, A179
HOSC Readiness Review	Submitted by FD43 Group Lead	FPD-OI-FD40.1	Handle as permanent pending retention approval	Storage is in a file cabinet in MSFC Building 4663, A179

9.0 TOOLS, EQUIPMENT, AND MATERIALS

None

10.0 PERSONNEL TRAINING AND CERTIFICATION

None

11.0 FLOW DIAGRAM

Figure 1 graphically depicts the procedure stated in Section 4.0 of this document.

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FIGURE 1: Flight Certification for Ground Systems Process

